



## Towards sustainable plantation forestry

Keynote Address to NZ Institute of Forestry Conference  
NZ PLANTATION FORESTRY – A SUSTAINABLE RESOURCE  
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### INTRODUCTION

This time last month I was in Canada. Newspaper headlines proclaimed: "Twenty thousand loggers stage massive demonstration to protest environmentalists' demands". Their angry message to the British Columbia Legislative was "No more lost jobs". On the same day there was a full page advertisement by a forest company counteracting Greenpeace claims that their forestry practice was unacceptable.

It was a feeling of *déjà vu* as I recalled events on the West Coast some eight years ago. Unlike events leading to the West Coast Accord however, a Commissioner of Environment and Resources (a position rather like my own) had prepared a report (British Columbia Commission on Resources and Environment, 1994) which tried to be equitable to all sectors and, not surprisingly, pleased no one.

The Commissioner's report recommended 13 per cent of Victoria Island would be preserved (up from 10.3 per cent currently protected), and another 8 per cent would be partly protected. The report indicated that years of over-logging in the forests are now translating into decreases in the number of trees that can be harvested, which would mean lost jobs, and in the past decade 27,000 forestry jobs had been lost due to technological change. The Commissioner's report, while advocating less forest be cut, also recommended a strategy to create new jobs in reforestation, land-use management and 'environmentally-friendly' logging. He told reporters that if British Columbia could not make even minor adjustments towards sustainable land use they had cause to worry about their future.

So what was going wrong? There was undoubtedly some political posturing and no group likes the thought of more jobs being lost. But the Government was undoubtedly listening to some of the environmental arguments. Part of the problem was, I suggest, a lack of understanding by some of the key stakeholders as to what was actually being proposed and the effects of the proposal, but equally important was the record of the forest industry.

Just before I left New Zealand, the Canadian High Commission forwarded to me an audit of forestry company practice in British Columbia. This audit (British Columbia Ministry of Forests, 1994) was of the compliance by forest companies to meet the Coastal Fisheries Forestry Guidelines. Of the nine companies surveyed, the top record was 80 per cent compliance and the lowest 50 per cent. Perhaps 80 per cent is a reasonable target, although I think I would prefer better than 90 per cent, but our one New Zealand company in that list achieved only 63 per cent.

I had to ask myself: "What would be the record in New Zealand of forest companies complying with conditions on resource consents related to soil and water?" I don't know, and I don't know whether the NZ Ministry of Forestry knows. But if they

don't, they should.

However, I'm not here to talk about the record or otherwise of forest companies in achieving compliance with statutory consents. I think the issue to be addressed is far more fundamental. The Canadian debate was about achieving sustainable development in long-term rotation forestry; it was about clear-cutting old forests and it was about retaining biodiversity. To a large extent New Zealand has left those arguments behind. Today we are dealing with largely an agricultural crop which happens to have a longer rotation period than other crops. The parameters, which must be addressed if sustainable management is the goal, follow similar criteria for sustainable land management, irrespective of the crop.

### SUSTAINABLE LAND MANAGEMENT IN NEW ZEALAND

Government has agreed upon a set of sustainable land management outcomes (Ministry of Agriculture and Fisheries, 1993). These include:

- maintenance of the potential of the nation's soil resources to achieve viable land-use options for present and future generations;
- adoption of management skills and application of appropriate technology to enable people and communities to provide for their social and economic well-being;
- adoption of management practices that maintain or enhance the quality of waterways and ground water resources, with respect to suspended sediments, nutrients, harmful micro-organisms and other contaminants;
- avoidance, mitigation, and remedying of the impacts of land-related hazards including flooding, subsidence and erosion;
- maintenance of catchments to provide high-quality water resources for downstream users;
- maintenance of cultural values associated with land and water, including the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, *waahi tapu*, and other *taonga*; and
- maintenance of aesthetic, ecological and conservation values related to land and water.

My Office has investigated two areas of land management which we concluded were not sustainable. These included the semi-arid, high-country tussock grasslands (Parliamentary Commissioner for the Environment, 1991) and the severely eroded lands of the East Coast of the North Island (*ibid.*, 1993) where some 244,000 ha are at risk to land degradation.

Land at risk in the South Island – some 130,000 ha – is not so much the result of wind erosion but rather the result of loss of soil fertility.

The recurring crises and land degradation in these areas over the last 50 years have resulted in Government initiatives, with varying degrees of success, to arrest the degradation.

Following Cyclone Bola, disaster relief amounting to \$111 million helped get the East Coast region back on its feet but did little to assist changes in land use. The East Coast Conservation Forestry Scheme, initiated in 1989 and costing \$7 million, was targeted to planting 9000 ha of severe to extreme eroding land. However, only 5.5 per cent of the total areas at risk have been afforested.

As you know, the Government has announced a new East Coast Forestry Project and at least 20,000 ha of severely eroding land should be planted by 1999.

The response by Central Government to the 1980s' degradation of the South Island semi-arid lands led to the Rabbit and Land Management Programme established by the Ministry of Agriculture and Fisheries.

I have been pleased to note that there has been a 20 per cent increase in vegetation cover since 1990. An important start has been made in unravelling the whole complex of ecological, economic, social and institutional factors which contribute to sustainable land uses in the tussock grasslands.

However, Government intervention to encourage and ensure sustainable land use is not something land managers should rely on.

### **Implementation of sustainable land management**

Last week I was given the task of summarising the Sustainable Land Management Conference held at Lincoln. Basically the conference focused on production of food, although there were one or two forestry papers.

There was agreement by TRADENZ and some of the overseas speakers that green consumerism is tending to drive international markets. The ability for New Zealand to stay competitive is going to rely on our ability to substantiate our 'clean green' image and achieve sustainable land management.

The conference identified a number of what I called 'green walls' that were impeding progress towards sustainability. There was a green wall of suspicion, a green wall of ignorance, and a green wall of lack of cooperation and integration.

**The green wall of suspicion** is related mainly to the tension between the rural and urban sectors. There is a great fear that the chattering urban classes will dictate to the rural sector and influence land-management decisions. This could occur in the way decisions are made on resource consents, and by the possible objections made by city dwellers to resource applications.

The rural voice needed to be expressed in District Plans and Regional Policy Statements and there was a great fear the need would either be ignored by rural land holders or the views ignored by the city.

**The green wall of ignorance** referred to knowledge of the Resource Management Act and knowledge of research findings. The blockage in communication was partly due to the fact that the language being used was not user-friendly.

**The green wall of lack of integration** particularly applies to the need to have all parts of a sector fully conversant with what it means to attain sustainable land management. The banks, the process industries, the accountants, the transporters, the researchers, Government, the growers – all need to know what is involved and what the implications are. At the local level cooperation is essential.

Despite the identification of some of the blockages to achieving sustainable land management, there were a number of positive pieces of advice.

The advent of local resource management groups, whether they are called Land Care or something else, is a vehicle whereby the rural sector can come together, set objectives, learn about sustainable management practices and identify indicators that will enable them to substantiate those practices. In addition, such

groups could assist in policy formulation in District and Regional Plans and serve as the communication network for scientific research findings. Such groups may not appear relevant to large forest companies but they are certainly relevant to small growers and I would urge any forestry enterprise to cooperate with the local community.

Advice came from the business community. This was the desirability of embracing Total Quality Management practices and attaining accreditation under the ISO 9000 series.

Total Quality Management systems apply to every industry. I have also received advice on standards for sustainable development which are being set by some of the multinationals (Allied Signals, 1994). Some of the principles include:

- Integration of environmental health and safety programmes.
  - Beyond compliance. (This means the company tries to set and adhere to standards which are higher than those set in legislation.)
  - Global commitment. (The same standards should apply regardless of the country in which the company operates.)
  - Adoption of pollution prevention technology.
  - Establishment of training programmes. (The point was made that true skills take time – it's not just about raising awareness and improving knowledge.)
  - Commitment to internal auditing. (The internal audit team reports to an Environment Committee of the Board of Directors. Each section of the company is measured against criteria and tracked each year to show progress. The internal audit is not published so that sections of the company will not hide their practices.)
  - Codes of Conduct.
  - Total Quality Management.
  - Business responsibility and accountability. (Part of this is to publish an environmental report in the Annual Report of the company.)
  - Top management commitment.
- These principles could equally apply to a forest industry.

### **SUSTAINABLE PLANTATION FORESTRY**

Sustainable forest management in New Zealand has been enshrined in the Forests Amendment Act 1993 for indigenous forest land. It represents progress towards meeting our obligations to future generations by sustaining the ecological, recreational, timber and other intrinsic values of our indigenous forests.

The intent of the indigenous forest policy is clear. Sustainable management of indigenous forest land is to be promoted and in particular sustainable forest management plans have to be approved. Forest owners wishing to harvest may have to be able to measure changes to such aspects as flora or fauna, soil erosion, aquatic ecosystems, regeneration and amenity values. How some of those changes are to be measured is not clear. A great deal of the Forests Amendment Act is prescriptive and, although this makes the rules clear, they may not necessarily be the most appropriate for ensuring sustainable management.

No such rules exist for plantation forests except in those conditions that might be applied by way of a resource consent under the Resource Management Act 1991. Given the perception that green consumerism may drive the forest industry, the question needs to be asked: "Should New Zealand have an up-front stated sustainable management policy for plantation forests?" or "Are the policies adopted for sustainable land management sufficient?" There is a policy position paper for sustainable agriculture. Is there going to be one for forestry? I understand one is being drafted and possibly the views expressed at today's seminar will contribute to that policy.

### **Implementation of sustainable plantation forestry**

A sustainable plantation forestry policy is likely to face similar

impediments as have been identified for sustainable land management. There are already defensive positions taken by farmers, by conservationists and by hydroelectricity generators as well as by the forest industry itself. Claims that there is uncertainty as to whether any given forestry crop may be harvested under the Resource Management Act have been discounted by the legal firm of Bell, Gully, Buddle and Weir. There has never been any guarantee of logging and in fact the Resource Management Act can be used to minimise areas of uncertainty. Improved knowledge and improved communication between the stakeholders is essential. There is a role for forest owners in the establishment of land-care groups, particularly if communication links are made with local government and Crown Research Institutes.

Of more fundamental importance will be the need to establish criteria that will enable foresters to substantiate that their forestry practices are sustainable.

The Canadians (Maini, J.S. 1993) were quick to point out to me that their approach has changed from one of sustained yield to sustained development. Their management of forests has changed to management of forest ecosystems. The question of what is sustainable development is answered in part by the indicators they have identified which can measure such a state. Many of those indicators are based on scientific analysis and would apply to whatever forests in whatever country. They included productive capacity of soils, water conservation, soil conservation, habitat value and biodiversity. Indicators were still being worked on which would enable measurement of the ecosystem integrity.

Some of the special issues that were receiving attention were ecological thresholds and limits for insect and soil pests over three to four rotations, as well as what indicators were appropriate in plantations of mixed forest species containing hardwoods and conifers.

There are a number of pointers as to what would be required in a New Zealand Sustainable Plantation Forestry policy.

A commitment will be required by all sectors of the industry and that may mean establishing a set of agreed principles and ensuring the industry is integrated. The walls of suspicion and ignorance need to be broken down. This requires greater attention to improving the flow of knowledge and understanding. It may require attention being paid to community groups.

Sustainable management must be substantiated. This will require identification of criteria that meet government land-management outcomes. It will also mean identifying measurable indicators. We need indicators that are scientifically based and which can measure both biophysical and socio-economic changes taking place. Indicators will be required that deal with the stability and health of communities, as well as for soil and water conservation and ecosystem biodiversity and integrity. These aspects are challenging the more traditional concepts of efficiency and economics.

I firmly believe New Zealand should take the initiative. We have the experience. We should set the standards for sustainable management: that way we remain internationally competitive.

## REFERENCES

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- 5 Ministry of Agriculture and Fisheries, 1993: Sustainable Agriculture, MAF Policy Position Paper 1.
- 6 Parliamentary Commissioner for the Environment, 1991: Sustainable Land Use for the Dry Tussock Grasslands in the South Island.
- 7 *Ibid*, 1993: Water and Soil Resource Management on the East Coast.

# Forestry technologies sought after by Malaysia

Genetic improvement of forest trees, commercial application of micropropagation practices, and new wood product technologies were on the agenda for discussion when the Malaysian Minister of Science, Technology and the Environment visited the New Zealand Forest Research Institute on August 4.

Malaysia is looking to sustainable plantation forestry practices and expertise to replace traditional tropical forestry methods. NZFRI Chief Executive Dr Frank Wood said the Institute had much to offer countries like Malaysia in providing training and research services. New Zealand's fund of knowledge built up over almost 50 years of research into every

conceivable aspect of radiata pine forestry could be transferred into research programmes for other species in developing countries, he said.

"Direct technology sales and joint venture arrangements with overseas companies for commercialisation of developing technologies are also possible, although we are always mindful of the need to protect the competitive advantage of New Zealand's own forestry industry," said Dr Wood.

"But Malaysia values NZFRI's technologies and research expertise. It is part of a growing trend: the increasing international awareness of NZFRI's contribution to plantation forestry research, and the value gains that industries can make by taking up new wood process and product technologies."

Dr Wood said that NZFRI had long-established links with research counterparts in Malaysia. And as well as the science links with sister organisations, NZFRI staff have frequently carried out research consultancies in Malaysia. A

scientist was in Malaysia last year completing a contract on minimising and utilising harvesting residues, for example. Several more contracts are currently under negotiation.

"The New Zealand industry benefits from contacts such as these," said Dr Wood.

"Malaysia is a fast-growing dynamic economy right in the heart of our major trading region in forestry products. NZFRI can facilitate access to these markets. Our high profile in Malaysia enhances New Zealand's standing in the industry there."

Datuk Law Hieng Ding has been in New Zealand with the Director-General of the Standards and Industrial Research Institute of Malaysia, Dato Dr Ahmad Tajuddin bin Ali, to gain a first-hand impression of New Zealand's science capability. An 'Arrangement on Science and Technology Cooperation' between the Governments of New Zealand and Malaysia was signed in Wellington on August 3.

## New Zealand FORESTRY

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